

109TH CONGRESS
1ST SESSION

S. _____

To establish an Advanced Research Projects Administration-Energy to initiate high risk, innovative energy research to improve the energy security of the United States, to extend certain energy tax incentives, and for other purposes.

IN THE SENATE OF THE UNITED STATES

_____ introduced the following bill; which was read twice
and referred to the Committee on _____

A BILL

To establish an Advanced Research Projects Administration-Energy to initiate high risk, innovative energy research to improve the energy security of the United States, to extend certain energy tax incentives, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*

2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Energy Competitiveness Act of 2006”.

6 (b) TABLE OF CONTENTS.—The table of contents of
7 this Act is as follows:

Sec. 1. Short title; table of contents.

TITLE I—ADVANCED RESEARCH PROJECTS ADMINISTRATION-
ENERGY

Sec. 101. Advanced Research Projects Administration-Energy.

TITLE II—ENERGY TAX INCENTIVES

Subtitle A—Energy Infrastructure Tax Incentives

Sec. 201. Extension of credit for electricity produced from certain renewable resources.

Sec. 202. Extension and expansion of credit to holders of clean renewable energy bonds.

Sec. 203. Extension and expansion of qualifying advanced coal project credit.

Sec. 204. Extension and expansion of qualifying gasification project credit.

Subtitle B—Domestic Fossil Fuel Security

Sec. 211. Extension of election to expense certain refineries.

Subtitle C—Conservation and Energy Efficiency Provisions

Sec. 221. Extension of energy efficient commercial buildings deduction.

Sec. 222. Extension of new energy efficient home credit.

Sec. 223. Extension of residential energy efficient property credit.

Sec. 224. Extension of credit for business installation of qualified fuel cells and stationary microturbine power plants.

Sec. 225. Extension of business solar investment tax credit.

Subtitle D—Alternative Fuels and Vehicles Incentives

Sec. 231. Extension of excise tax provisions and income tax credit for biodiesel and alternative fuels.

Sec. 232. Exception from depreciation limitation for certain alternative and electric passenger automobiles.

1 **TITLE I—ADVANCED RESEARCH**
2 **PROJECTS ADMINISTRATION-**
3 **ENERGY**

4 **SEC. 101. ADVANCED RESEARCH PROJECTS ADMINISTRA-**
5 **TION-ENERGY.**

6 (a) ESTABLISHMENT.—There is established the Ad-
7 vanced Research Projects Administration-Energy (re-
8 ferred to in this section as “ARPA-E”).

1 (b) GOALS.—The goals of ARPA–E are to reduce the
2 quantity of energy the United States imports from foreign
3 sources and to improve the competitiveness of the United
4 States economy by—

5 (1) promoting revolutionary changes in the crit-
6 ical technologies that would promote energy competi-
7 tiveness;

8 (2) turning cutting-edge science and engineer-
9 ing into technologies for energy and environmental
10 application; and

11 (3) accelerating innovation in energy and the
12 environment for both traditional and alternative en-
13 ergy sources and in energy efficiency mechanisms
14 to—

15 (A) reduce energy use;

16 (B) decrease the reliance of the United
17 States on foreign energy sources; and

18 (C) improve energy competitiveness.

19 (c) DIRECTOR.—

20 (1) IN GENERAL.—ARPA-E shall be headed by
21 a Director (referred to in this section as the “Direc-
22 tor”) appointed by the President.

23 (2) POSITIONS AT LEVEL V.—Section 5316 of
24 title 5, United States Code, is amended by adding
25 at the end the following:

1 “Director, Advanced Research Projects Admin-
2 istration-Energy.”.

3 (d) DUTIES.—

4 (1) IN GENERAL.—In carrying out this section,
5 the Director shall award competitive grants, cooper-
6 ative agreements, or contracts to institutions of
7 higher education, companies, or consortia of such
8 entities (which may include federally funded re-
9 search and development centers) to achieve the goal
10 described in subsection (b) through acceleration of—

11 (A) energy-related research;

12 (B) development of resultant techniques,
13 processes, and technologies, and related testing
14 and evaluation; and

15 (C) demonstration and commercial applica-
16 tion of the most promising technologies and re-
17 search applications.

18 (2) SMALL-BUSINESS CONCERNS.—The Direc-
19 tor shall carry out programs established under this
20 section, to the maximum extent practicable, in a
21 manner that is similar to the Small Business Inno-
22 vation Research Program established under section
23 9 of the Small Business Act (15 U.S.C. 638) to en-
24 sure that small-business concerns are fully able to
25 participate in the programs.

1 (e) PERSONNEL.—

2 (1) PROGRAM MANAGERS.—

3 (A) APPOINTMENT.—The Director shall
4 appoint employees to serve as program man-
5 agers for each of the programs that are estab-
6 lished to carry out the duties of ARPA-E under
7 this section.

8 (B) DUTIES.—Program managers shall be
9 responsible for—

10 (i) establishing research and develop-
11 ment goals for the program, as well as
12 publicizing goals of the program to the
13 public and private sectors;

14 (ii) soliciting applications for specific
15 areas of particular promise, especially
16 areas for which the private sector cannot
17 or will not provide funding;

18 (iii) selecting research projects for
19 support under the program from among
20 applications submitted to ARPA-E, based
21 on—

22 (I) the scientific and technical
23 merit of the proposed projects;

1 (II) the demonstrated capabilities
2 of the applicants to successfully carry
3 out the proposed research project; and

4 (III) such other criteria as are
5 established by the Director; and

6 (iv) monitoring the progress of
7 projects supported under the program.

8 (2) OTHER PERSONNEL.—

9 (A) IN GENERAL.—Subject to subpara-
10 graph (B), the Director shall appoint such em-
11 ployees as are necessary to carry out the duties
12 of ARPA-E under this section.

13 (B) LIMITATIONS.—The Director shall ap-
14 point not more than 250 employees to carry out
15 the duties of ARPA-E under this section, in-
16 cluding not less than 180 technical staff, of
17 which—

18 (i) not less than 20 staff shall be sen-
19 ior technical managers (including program
20 managers designated under paragraph
21 (1)); and

22 (ii) not less than 80 staff shall be
23 technical program managers.

24 (3) EXPERIMENTAL PERSONNEL AUTHORITY.—

25 In appointing personnel for ARPA-E, the Director

1 shall have the hiring and management authorities
2 described in section 1101 of the Strom Thurmond
3 National Defense Authorization Act for Fiscal Year
4 1999 (Public Law 105–261; 5 U.S.C. 3104 note).

5 (4) MAXIMUM DURATION OF EMPLOYMENT.—

6 (A) PROGRAM MANAGERS AND SENIOR
7 TECHNICAL MANAGERS.—

8 (i) IN GENERAL.—Subject to clause
9 (ii), a program manager and a senior tech-
10 nical manager appointed under this sub-
11 section shall serve for a term not to exceed
12 4 years after the date of appointment.

13 (ii) EXTENSIONS.—The Director may
14 extend the term of employment of a pro-
15 gram manager or a senior technical man-
16 ager appointed under this subsection for
17 not more than 4 years through 1 or more
18 2-year terms.

19 (B) TECHNICAL PROGRAM MANAGERS.—A
20 technical program manager appointed under
21 this subsection shall serve for a term not to ex-
22 ceed 6 years after the date of appointment.

23 (5) LOCATION.—The office of an officer or em-
24 ployee of ARPA-E shall not be located in the head-
25 quarters of the Department of Energy.

1 (f) TRANSACTIONS OTHER THAN CONTRACTS AND
2 GRANTS.—

3 (1) IN GENERAL.—To carry out projects
4 through ARPA-E, the Director may enter into
5 transactions (other than contracts, cooperative
6 agreements, and grants) to carry out advanced re-
7 search projects under this section under similar
8 terms and conditions as the authority is exercised
9 under section 646(g) of the Department of Energy
10 Organization Act (42 U.S.C. 7256(g)).

11 (2) PEER REVIEW.—Peer review shall not be
12 required for 75 percent of the research projects car-
13 ried out by the Director under this section.

14 (g) PRIZES FOR ADVANCED TECHNOLOGY ACHIEVE-
15 MENTS.—The Director may carry out a program to award
16 cash prizes in recognition of outstanding achievements in
17 basic, advanced, and applied research, technology develop-
18 ment, and prototype development that have the potential
19 for application to the performance of the mission of
20 ARPA-E under similar terms and conditions as the au-
21 thority is exercised under section 1008 of the Energy Pol-
22 icy Act of 2005 (42 U.S.C. 16396).

23 (h) COORDINATION OF ACTIVITIES.—The Director—

1 (1) shall ensure that the activities of ARPA-E
2 are coordinated with activities of Department of En-
3 ergy offices and outside agencies; and

4 (2) may carry out projects jointly with other
5 agencies.

6 (i) REPORT.—Not later than September 30, 2007,
7 the Director shall submit to Congress a report on the ac-
8 tivities of ARPA-E under this section, including a rec-
9 ommendation on whether ARPA-E needs an energy re-
10 search laboratory.

11 (j) AUTHORIZATION OF APPROPRIATIONS.—There
12 are authorized to be appropriated to carry out this sec-
13 tion—

14 (1) \$300,000,000 for fiscal year 2007;

15 (2) \$600,000,000 for fiscal year 2008;

16 (3) \$1,100,000,000 for fiscal year 2009;

17 (4) \$1,500,000,000 for fiscal year 2010; and

18 (5) \$2,000,000,000 for fiscal year 2011.

1 **TITLE II—ENERGY TAX**
2 **INCENTIVES**
3 **Subtitle A—Energy Infrastructure**
4 **Tax Incentives**

5 **SEC. 201. EXTENSION OF CREDIT FOR ELECTRICITY PRO-**
6 **DUCTION FROM CERTAIN RENEWABLE RE-**
7 **SOURCES.**

8 Section 45(d) of the Internal Revenue Code of 1986
9 (relating to qualified facilities) is amended by striking
10 “2008” each place it appears and inserting “2011”.

11 **SEC. 202. EXTENSION AND EXPANSION OF CREDIT TO**
12 **HOLDERS OF CLEAN RENEWABLE ENERGY**
13 **BONDS.**

14 (a) IN GENERAL.—Section 54(m) of the Internal
15 Revenue Code of 1986 (relating to termination) is amend-
16 ed by striking “2007” and inserting “2010”.

17 (b) ANNUAL VOLUME CAP FOR BONDS ISSUED DUR-
18 ING EXTENSION PERIOD.—Paragraph (1) of section 54(f)
19 of the Internal Revenue Code of 1986 (relating to limita-
20 tion on amount of bonds designated) is amended to read
21 as follows:

22 “(1) NATIONAL LIMITATION.—

23 “(A) INITIAL NATIONAL LIMITATION.—

24 With respect to bonds issued after December
25 31, 2005, and before January 1, 2008, there is

1 a national clean renewable energy bond limita-
2 tion of \$800,000,000.

3 “(B) ANNUAL NATIONAL LIMITATION.—
4 With respect to bonds issued after December
5 31, 2007, and before January 1, 2011, there is
6 a national clean renewable energy bond limita-
7 tion for each calendar year of \$800,000,000.”.

8 (c) EFFECTIVE DATE.—The amendments made by
9 this section shall apply to bonds issued after the date of
10 the enactment of this Act.

11 **SEC. 203. EXTENSION AND EXPANSION OF QUALIFYING AD-
12 VANCED COAL PROJECT CREDIT.**

13 (a) IN GENERAL.—Section 48A(d)(3)(A) of the In-
14 ternal Revenue Code of 1986 (relating to aggregate cred-
15 its) is amended by striking “\$1,300,000,000” and insert-
16 ing “\$1,800,000,000”.

17 (b) AUTHORIZATION OF ADDITIONAL INTEGRATED
18 GASIFICATION COMBINED CYCLE PROJECTS.—Subpara-
19 graph (B) of section 48A(d)(3) of the Internal Revenue
20 Code of 1986 (relating to aggregate credits) is amended
21 to read as follows:

22 “(B) PARTICULAR PROJECTS.—Of the dol-
23 lar amount in subparagraph (A), the Secretary
24 is authorized to certify—

1 “(i) \$800,000,000 for integrated gas-
2 fication combined cycle projects the appli-
3 cation for which is submitted during the
4 period described in paragraph (2)(A)(i),

5 “(ii) \$500,000,000 for projects which
6 use other advanced coal-based generation
7 technologies the application for which is
8 submitted during the period described in
9 paragraph (2)(A)(i), and

10 “(iii) \$500,000,000 for integrated
11 gasification combined cycle projects the ap-
12 plication for which is submitted during the
13 period described in paragraph (2)(A)(ii).”.

14 (c) APPLICATION PERIOD FOR ADDITIONAL
15 PROJECTS.—Subparagraph (A) of section 48A(d)(2) of
16 the Internal Revenue Code of 1986 (relating to certifi-
17 cation) is amended to read as follows:

18 “(A) APPLICATION PERIOD.—Each appli-
19 cant for certification under this paragraph shall
20 submit an application meeting the requirements
21 of subparagraph (B). An applicant may only
22 submit an application—

23 “(i) for an allocation from the dollar
24 amount specified in clause (i) or (ii) of
25 paragraph (3)(A) during the 3-year period

1 beginning on the date the Secretary estab-
2 lishes the program under paragraph (1),
3 and

4 “(ii) for an allocation from the dollar
5 amount specified in paragraph (3)(A)(iii)
6 during the 3-year period beginning at the
7 termination of the period described in
8 clause (i).”.

9 (d) **EFFECTIVE DATE.**—The amendments made by
10 this section shall take effect as if included in the amend-
11 ments made by section 1307 of the Energy Policy Act of
12 2005.

13 **SEC. 204. EXTENSION AND EXPANSION OF QUALIFYING**
14 **GASIFICATION PROJECT CREDIT.**

15 (a) **IN GENERAL.**—Section 48B(d)(1) of the Internal
16 Revenue Code of 1986 (relating to qualifying gasification
17 project program) is amended by striking “\$350,000,000”
18 and inserting “\$850,000,000”.

19 (b) **EFFECTIVE DATE.**—The amendment made by
20 this section shall take effect as if included in the amend-
21 ments made by section 1307 of the Energy Policy Act of
22 2005.

1 ment made by section 1323(a) of the Energy Policy Act
2 of 2005.

3 **Subtitle C—Conservation and**
4 **Energy Efficiency Provisions**

5 **SEC. 221. EXTENSION OF ENERGY EFFICIENT COMMERCIAL**
6 **BUILDINGS DEDUCTION.**

7 Section 179D(h) of the Internal Revenue Code of
8 1986 (relating to termination) is amended by striking
9 “2007” and inserting “2010”.

10 **SEC. 222. EXTENSION OF NEW ENERGY EFFICIENT HOME**
11 **CREDIT.**

12 (a) IN GENERAL.—Subsection (g) of section 45L of
13 the Internal Revenue Code of 1986 (relating to new energy
14 efficient home credit) is amended to read as follows:

15 “(g) TERMINATION.—This section shall not apply
16 to—

17 “(1) any qualified new energy efficient home
18 meeting the energy saving requirements of sub-
19 section (c)(1) acquired after December 31, 2010,
20 and

21 “(2) any qualified new energy efficient home
22 meeting the energy saving requirements of para-
23 graph (2) or (3) of subsection (c) acquired after De-
24 cember 31, 2007.”.

1 (b) EFFECTIVE DATE.—The amendment made by
2 this section shall take effect as if included in the amend-
3 ments made by section 1332 of the Energy Policy Act of
4 2005.

5 **SEC. 223. EXTENSION OF RESIDENTIAL ENERGY EFFICIENT**
6 **PROPERTY CREDIT.**

7 Section 25D(g) of the Internal Revenue Code of 1986
8 (relating to termination) is amended by striking “2007”
9 and inserting “2010”.

10 **SEC. 224. EXTENSION OF CREDIT FOR BUSINESS INSTALLA-**
11 **TION OF QUALIFIED FUEL CELLS AND STA-**
12 **TIONARY MICROTURBINE POWER PLANTS.**

13 Sections 48(c)(1)(E) and 48(c)(2)(E) of the Internal
14 Revenue Code of 1986 (relating to termination) are each
15 amended by striking “2007” and inserting “2010”.

16 **SEC. 225. EXTENSION OF BUSINESS SOLAR INVESTMENT**
17 **TAX CREDIT.**

18 Sections 48(a)(2)(A)(i)(II) and 48(a)(3)(A)(ii) of the
19 Internal Revenue Code of 1986 (relating to termination)
20 are each amended by striking “2008” and inserting
21 “2011”.

1 **Subtitle D—Alternative Fuels and**
2 **Vehicles Incentives**

3 **SEC. 231. EXTENSION OF EXCISE TAX PROVISIONS AND IN-**
4 **COME TAX CREDIT FOR BIODIESEL AND AL-**
5 **TERNATIVE FUELS.**

6 (a) BIODIESEL.—Sections 40A(g), 6426(c)(6), and
7 6427(e)(5)(B) of the Internal Revenue Code of 1986 are
8 each amended by striking “2008” and inserting “2010”.

9 (b) ALTERNATIVE FUEL.—

10 (1) FUELS.—Sections 6426(d)(4) and
11 6427(e)(5)(C) of the Internal Revenue Code of 1986
12 are each amended by striking “September 30, 2009”
13 and inserting “December 31, 2010”.

14 (2) REFUELING PROPERTY.—Section 30C(g) of
15 such Code is amended by striking “2009” and in-
16 serting “2010”.

17 (c) EFFECTIVE DATE.—The amendments made by
18 this section shall take effect on January 1, 2007.

19 **SEC. 232. EXCEPTION FROM DEPRECIATION LIMITATION**
20 **FOR CERTAIN ALTERNATIVE AND ELECTRIC**
21 **PASSENGER AUTOMOBILES.**

22 (a) IN GENERAL.—Paragraph (1) of section 280F(a)
23 of the Internal Revenue Code of 1986 (relating to limita-
24 tion) is amended by adding at the end the following new
25 subparagraph:

1 “(D) SPECIAL RULE FOR CERTAIN ALTER-
2 NATIVE MOTOR VEHICLES AND QUALIFIED
3 ELECTRIC VEHICLES.—Subparagraph (A) shall
4 not apply to any motor vehicle for which a cred-
5 it is allowable under section 30 or 30B.”.

6 (b) CONFORMING AMENDMENT.—Subparagraph (C)
7 of section 280F(a)(1) of the Internal Revenue Code of
8 1986 is amended by striking clause (ii) and by redesignig-
9 nating clause (iii) as clause (ii).

10 (c) EFFECTIVE DATE.—The amendments made by
11 this section shall apply to property placed in service after
12 the date of the enactment of this Act.